

Remarks

Claims 1-18, 20 and 21 are pending.

Claims 1 and 2 are amended.

Claims 3-5, 8, 10 and 17 are original.

Claims 6, 7, 9, 11-16 and 18 are as previously presented.

Claim 21 is cancelled.

Claim 22 is new.

Claim 20 is withdrawn.

The application now contains claims 1-18, 20 and 22.

Claim 1 is amended to specify that the drying process, originally included as part of step c) is the optional step to be performed if solvent is present, and that the irradiation process is necessary by inserting at the end of step b) the phrase "optionally dried to remove solvent if present" and by deleting from the first line of step c) all material except "irradiated with electromagnetic waves". Support is found in the specification on page 3, lines 13-16.

Claim 2 is amended to delete the word "or" from line eight. Support is found in the specification on page 3, lines 13-16.

Support for new claim 22 is found in the specification on page 6, lines 1-3.

No new matter is added.

Restriction

Applicants hereby confirm the election of Group A, Claims 1-18 drawn to a process for preparing a strongly adherent coating and as the species with to begin examination the photo initiator of Example 1, page 41 of the specification, i.e., the mixture of a copolymerizable benzophenone and bis(2,4,6-trimethylbenzoyl)-phenyl-phosphine oxide. The species is encompassed by claims 1-18, withdrawn claim 20 and new claim 22. Applicants respectfully point out that the coating of claim 20 is prepared according to claim 1 and as such is a product produced by the process of the elected invention. According to PCT rules, unity of invention is afforded a process and a product of the process should they be linked by a common inventive feature. Applicants believe that the process of claim 1 is novel and non-obvious as detailed below and kindly ask that the Examiner rejoin claim 20 upon finding the process of claim 1 allowable.

Rejections

Claims 1-6, 8-12 and 16 are rejected under 35 USC 102(b) as obvious over Bauer, US 6,548,121.

Applicants respectfully traverse the rejections.

Bauer discloses a process for coating a substrate in which a substrate is pre-treated with plasma, corona or a flame treatment prior to the application of photo initiator compounds containing ethylenically unsaturated groups which are then allowed to react with the pretreated surface to form a primer layer onto which is applied a coating containing monomers (for example, a UV curable ink) which is then cured.

According to the instantly amended claims, a primer layer is prepared by pretreating the surface with corona discharge etc, followed by applying the photo initiators containing ethylenically unsaturated groups or a mixture containing both the photo initiators containing ethylenically unsaturated groups and monomers or oligomers, and then this layer is cured by irradiation. Onto this irradiated primer layer is applied a coating containing monomers (for example, a UV curable ink) which is then cured.

Applicants respectfully submit that the processing steps of the instantly amended claims are different from those of Bauer and no anticipation exists. Applicants therefore submit that the rejections of claims 1-6, 8-12 and 16 under 35 USC 102(b) over Bauer, US 6,548,121 are addressed and are overcome and kindly ask that the rejections be withdrawn.

Claims 12-14 are rejected under 35 USC 103(a) as obvious over Bauer, US 6,548,121 above. Claims 7, 15, 17 and 18 are rejected under 35 USC 103(a) as obvious over Bauer, US 6,548,121 above in view of Kohler US 6,251,963 which teaches using a solvent with photoinitiators.

Applicants respectfully traverse the rejections.

Applicants refer to the discussion above wherein Bauer lacks the step of the instant invention wherein the primer layer is cured by irradiation before the application of a coating. This step is also absent from Kohler. Applicants therefore submit that the art does not meet the limitations of the instant claims or direct one to the steps of the instant invention.

Applicants further respectfully note that Bauer discloses a process for the preparation of strongly adhering coatings on an inorganic or organic substrate, and metal is named as a possible substrate. A metal substrate, e.g. aluminum foil, provides barrier properties to the final product, however, in many applications a metal substrate is too heavy. Therefore a metalized substrate, that is a plastic film which has a thin metallic layer, is preferred in certain applications. Thus, while Bauer discloses coating a metal substrate, the instant claims are directed to a process to prepare strongly adherent coatings on a "metalized" substrate.

One difficulty in using a metalized substrate, (i.e., plastic film with a thin metallic layer) is that it is known that a corona/plasma treatment of a thin metalized layer damages said layer by forming pinholes in the layer and destroying the barrier effect. These difficulties are not typically encountered when using a metal substrate. Applicants therefore submit that it is unlikely that a person skilled in the art would consider corona/plasma treatment of a metal to be the equivalent of corona/plasma treatment of a metalized layer. Applicants however have surprisingly found, in contrast to the general knowledge concerning said metalized layers, that if the corona/plasma treatment of a metalized substrate is followed by the application of the photoinitiator (mixture, emulsion, suspension) and irradiation, an intact barrier remains.

Claim 22 specifically claims a process wherein the substrate to be coated is a metalized, i.e., metal coated, thermoplastic, elastomeric, inherently crosslinked or crosslinked polymer, a ceramic material, a glass, a leather or a textile. That is, the substrate is specifically a non-metal material coated with a metal layer.

Nonetheless, as the cited art fails to suggest the instant step wherein the primer layer is cured by irradiation before the application of a coating, Applicants respectfully submit that the rejections of claims 12-14 under 35 USC 103(a) as obvious over Bauer, US 6,548,121 and the rejections of claims 7, 15, 17 and 18 under 35 USC 103(a) as obvious over Bauer, US 6,548,121 in view of Kohler US 6,251,963 are addressed and are overcome and kindly ask that the rejections be withdrawn.

Claims 1-6, 8-14 and 16-18 are rejected under 35 USC 103(a) as obvious over Lundy, US 5,320,933 in view of Bauer, US 6,548,121 above; claims 7 and 15 are rejected under 35 USC 103(a) as obvious over Lundy, US 5,320,933 in view of Bauer, US 6,548,121 and Kohler US 6,251,963.

Applicants respectfully traverse the rejections.

Applicants refer to the discussion above wherein Bauer and Kohler each fails to suggest the step of the instant invention wherein the primer layer is cured by irradiation before the application of a coating. Lundy does not form a primer layer which is printed on or further coated, rather, a pattern of cured material is formed on a metalized substrate, the uncured material is removed as is the metal which resided under the uncured material and then the cured material is typically removed. Applicants therefore submit that the art does not meet the limitations of the instant claims or direct one to the steps of the instant invention.

Applicants therefore respectfully submit that the rejections under 35 USC 103(a) over Lundy, US 5,320,933 and Bauer, US 6,548,121, and the rejections under 35 USC 103(a) over Lundy, US 5,320,933, Bauer, US 6,548,121 and Kohler US 6,251,963 are addressed and are overcome and kindly ask that the rejections be withdrawn.

Claims 1-18 are rejected under the doctrine of obviousness type double patenting over US 7,455,891 in view of US 6,251,963; US Appl No. 10/566,741 in view of US 6,548,121; and US Appl No. 10/556,609 in view of US 6,548,121.

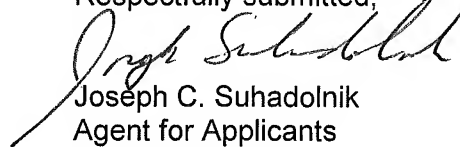
Applicants enclose terminal disclaimers over each of US 7,455,891, US Appl No. 10/566,741 and US Appl No. 10/556,609. Applicants therefore kindly ask that the obviousness type double patenting rejections be withdrawn.

Applicants respectfully submit that all rejections are addressed and are overcome and kindly ask that they be withdrawn and claims 1-18 and new claim 22 be found allowable. Applicants also kindly ask that upon finding said claims allowable, the Examiner rejoin claim 20 as a novel product produced by the novel process of claim 1 and find claim 20 also allowable.

In the event that minor amendments will further prosecution, Applicants request that the examiner contact the undersigned representative.

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Enclosed: Terminal disclaimer over US Pat 7,455,891

Terminal disclaimer over US Appl No. 10/566,741

Terminal disclaimer over US Appl No. 10/556,609